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Assessing satisfaction in patients who underwent surgery for traumatic pathology and orthopedic surgery of pelvis limbs combined with home health care *versus* outpatient care

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Original article

Assessing satisfaction in patients who underwent surgery for traumatic pathology and orthopedic surgery of pelvis limbs combined with home health care *versus* outpatient care

Clemente Barrera Chávez,* Cipriano Hernández Rosas**

“Lomas Verdes” Trauma and Orthopedics Hospital, IMSS

SUMMARY. *Material and methods.* To assess the degree of postoperative satisfaction of patients who underwent surgery due to trauma pathology and hip, femur and knee orthopedic surgery for fractures, arthroplasties, and femoral and tibial osteotomies because of angle disease and ligament injuries, a prospective, cross section, comparative study, using a survey design during the period of time between March 2003 and February 2004, was conducted at HTOLV (Spanish acronym for Lomas Verdes Trauma and Orthopedics Hospital). Two groups of patients participated (each with 86 patients). Patients were postoperatively managed by specialized home care or conventional outpatient care. ***Results.*** The conclusion is that specialized home health care results in a significantly higher degree of satisfaction among patients and members of their families, as opposed to conventional outpatient care. This conclusion is drawn with a very low alpha error probability ($p < 0.001$).

Key words: personal satisfaction, home health care, postoperative care, orthopedics.

RESUMEN. *Material y métodos.* Para evaluar el grado de satisfacción de los pacientes postoperados por patología traumática y ortopédica de cadera, fémur y rodilla, como son: fracturas, artroplastías, osteotomías femorales y tibiales por enfermedades angulares, así como lesiones ligamentarias; en el HTOLV se realizó un estudio prospectivo, transversal, comparativo a través de diseño de encuesta; en el período comprendido del mes de marzo del 2003 al mes de febrero del 2004. Se diseñaron dos grupos de (86 pacientes cada uno) a los cuales se les manejó en el postoperatorio mediante: Visita médica especializada domiciliaria y atención en la consulta externa en forma convencional. ***Resultados:*** Se concluye que la atención médica especializada domiciliaria genera un grado de satisfacción significativamente mayor en los pacientes y sus familiares, en relación con la Atención otorgada a través de consulta externa. Esta conclusión la hacemos con una probabilidad de error alfa muy baja ($p < 0.001$).

Palabras clave: satisfacción personal, atención médica domiciliaria, cuidados postoperatorios, ortopedia.

Introduction

The world literature reports that, since the 1980s, health institutions have tried to find proper mechanisms to provide home health care managed as a hospital extension at the patient's home at low cost but maintaining, at the same time, the quality, timeliness and warmth indicators that will benefit both patients and the institution.^{1-3,8}

* Physician assigned to the Hip, Knee, and Femur Service and Coordinator of the HTOLV ADEC (Spanish acronym for Home Health Care for Chronic Patients) program.

** Head of the Hip, Knee and Femur Service of HTOLV and Protocol Advisor.

Mailing address:

Dr. Clemente Barrera Chávez. Libertad No. 448 Col. Morelos, Morelia, Michoacán CP 58030. Telephone: + 44 33 26 51 29

Between the health care provided for outpatients and the one given to hospital patients there is a middle ground not requiring continuing care where the need for providing care and medical procedures to patients is minimal even if the type of procedure requires programmed care. At present, most of these patients are kept in the hospital.^{4,5,7,11,18,19}

To this end, the ADEC (Spanish acronym for Home Health Care for Chronic Patients) program was implemented in our hospital. Initially, this program was managed at the Secondary Level of Care for patients with chronic diseases. However, beginning November 26, 1999, it started working in the Lomas Verdes Trauma and Orthopedics Hospital to take care of postoperative patients who underwent surgery of the musculoskeletal system without necessarily having to be chronic patients. These patients were given specialized tertiary level medical care provided by an orthopedist.⁶

Material and methods

During the time period between March 2003 and February 2004, a prospective, cross section, comparative study was conducted. Using the survey design (Appendices 1 and 2) on patients of both genders and aged 16 to 90 years, who underwent surgery because of trauma pathology and hip, femur, and knee orthopedic surgery involving fractures, arthroplasties, and femoral and tibial osteotomies due to angle disease and ligament injuries. These patients lived in the municipalities of Naucalpan, Tlalnepantla, and Atizapán and accepted to be recruited in the program.

One hundred seventy two patients were admitted. They were divided in two groups, 86 to a group, and were given treatment by a) specialized home health care and b) specialized medical care on a conventional outpatient care basis.

Patients were randomly selected and met the inclusion criteria. There were 86 patients in Group A with 46 males aged 24 to 84 years (average 55 and a range of 60) and 40 females, aged 34 to 93 years (average 68.1 and a range of 59).

Group B had 86 patients with 47 males aged 24 to 87 years (average 50.19 and a range of 63) and 39 females aged 22 to 88 years (average 56.30 and a range of 66).

Patients in Group A selected for specialized home

health care upon scheduling their calls two weeks after surgery had their stitches removed. They were given guidelines on the diagnosis, treatment and prognosis in a language understandable to them and the members of their family. They were instructed on mobilization out of bed, if possible, and on free limbs, rehabilitation of the area involved by emphasizing their significance. They were also given guidelines on diet-hygiene, administrative and, in every case, psychological support measures. For infections, they were handled by changing their dressings after taking a culture and, if necessary, they were given antibiotics. For extremely complicated cases due to the surgery or underlying pathology patients were readmitted to the hospital. With proper progress, they were discharged again with an indication to have a control X-ray and were rescheduled to be treated at the outpatient services by their respective attendant physician.

Patients in Group B were conventionally treated at the Outpatient Service.

Statistical analysis, focused on the most important variable response in this study (Degree of Satisfaction), was done through two tests: a high power test like the Z difference in proportions and a lower power test, which was the χ^2 test (Tables 1 and 2).

Appendix 1

ADEC Program Survey. Home Health Care

Assessment of the quality, efficiency, timeliness, and satisfaction.

Name: _____ Membership: _____ Date: _____

- Were you given a clear explanation on the ADEC program function?
YES _____ NO _____
 - What was your mood when you were discharged from the hospital? Were you
Depressed? _____ Rebellious? _____
Indifferent? _____ Resigned? _____
Did you experience any other moods? _____
 - Did the ADEC program health team explain to you clearly the diagnosis, treatment, and prognosis? Were you instructed about your disease and had all your questions answered?
YES _____ NO _____
 - Do you feel you are getting all the necessary support for you care at the Hospital?
YES _____ NO _____
 - Did you feel that, so far, your rehabilitation has improved the affected area since the time when you left the hospital?
YES _____ NO _____ WHY? _____
 - Do you think the care given at the hospital has benefited the patient and members of his/her family?
YES _____ NO _____
 - Have you been given kind, quality and courteous care?
YES _____ NO _____
 - How would you rate your emotional status?
EXCELLENT _____ GOOD _____
FAIR _____ POOR _____
 - What do you think about this care program at your own home?
EXCELLENT _____ GOOD _____
FAIR _____ POOR _____
- Remarks: _____

Appendix 2

ADEC Program Survey. Out Patient Care

Assessment of the quality, efficiency, timeliness, and satisfaction.

Name: _____ Membership: _____ Date: _____

1. Were you given a clear explanation on the HTOLV function? YES _____ NO _____ WHY? _____
YES _____ NO _____
 2. What was your mood when you were discharge from the hospital? Were you
Depressed? _____ Rebellious? _____
Indifferent? _____ Resigned? _____
Did you experience any other moods? _____
 3. Did the Hospital health team explain to you clearly the diagnosis, treatment, and prognosis? Were you instructed about your disease and had all your questions answered?
YES _____ NO _____
 4. Do you feel you are getting all the necessary support for you care at the Hospital?
YES _____ NO _____
 5. Did you feel that, so far, your rehabilitation has improved the affected area since the time when you left the hospital?
 6. Do you think the care given at the hospital has benefited the patient and members of his/her family?
YES _____ NO _____
 7. Have you been given kind, quality and courteous care?
YES _____ NO _____
 8. How would you rate your emotional status?
EXCELLENT _____ GOOD _____
FAIR _____ POOR _____
 9. What do you thing about this care program at your own home?
EXCELLENT _____ GOOD _____
FAIR _____ POOR _____
- Remarks: _____

Table 1.

Type of medical care	Males	Females	Total
Home health care	46	40	86
Outpatient care	47	39	86
Total	93	79	172

Table 2.

Type of medical care	Males	Females	Total
Home health care	46	40	86
Outpatient care	47	39	86
Total	93	79	172

Results

Considering the degree of satisfaction broken down into quality, timeliness and satisfaction:

Out of 86 patients in Group A with Home Health Care, 72 (83%) rated Excellent their degree of satisfaction, 10

(11.6%) rated it as Good, 4 (4.7%) rated it as Fair or Poor. Of the four patients reporting a fair degree of satisfaction, notice that those patients did approve of our care but they just wanted to go back to the Outpatient Care Service to be treated by their attending physician.

Out of the 86 patients in Group B, given care on an Outpatient basis, 9 (10.5%) rated as Excellent their degree of satisfaction, 36 (41.9%) rated it as Good, 23 (26.7.%) rated it as Fair and 18 (29.9%) rated it as Poor.

With the Z test, the value of Z derived was 16.4, a highly significant value leading to the conclusion that differences seen could not be explained by mere chance. Significance was given to the differences in an external factor which in this case was the type of treatment, with an extremely low a error probability ($p < 0.001$).

In other words, based on the analysis the conclusion is that the degree of satisfaction with the medical care in terms of Excellence is significantly higher in the Group given home health care than in the group cared on an outpatient basis.

With the χ^2 test, the following value was derived: $\chi^2 = 95.1$

Since the value computed for χ^2 is much higher than the theoretical values of χ^2 with 3° of freedom, the conclusion

Table 3.

Type of medical care	Degree of satisfaction				Total
	Excellent	Good	Fair	Poor	
Home health care	72 (83%)	10 (11.6%)	4 (4.7%)	0 (0%)	86 (100%)
Outpatient care	9 (10.5%)	36 (41.9%)	23 (26.7%)	18 (20.9%)	86 (100%)
Total	81	46	27	18	172

is that differences seen may not be explained by mere chance and are consequently due to the type of care given. This conclusion is drawn with an extremely low a error probability ($p > 0.001$).

In other words, the conclusion is that the degree of satisfaction as rated by the patients and the members of their families significantly differs in favor of home health care compared to outpatient health care (*Table 3*).

Discussion

In an additional analysis, and upon analyzing the results, no significant differences were found in terms of gender between the comparison groups. However, statistically significant differences were found in terms of age between the comparison groups. This result was a cause for concern at a certain point in time but, with the help of my advisor, we saw the differences were unfavorable for the study group while being favorable for the control group. In other words, at first we started with the disadvantage of significantly older patients in the group given home health care than in the group give care on an outpatient basis.

Conclusion

Based on the above results, our conclusion is that the medical care given at home produces a significantly greater degree of satisfaction among patients and members of their families as opposed to medical care given on an outpatient basis.

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